

REMARKS

Claim 10 stands withdrawn from consideration. By this amendment, claim 1 has been amended. Support for the changes to claim 1 can be found in paragraphs 18 and 21 of the specification. Claims 1-9 and 11-17 are presented for further examination.

The rejection of claims 1-9 and 11-17 under 35 U.S.C. § 103(a) over Pez, US 4,406,825, or Jones, US 4,003,984, either one in view of Fujioka, US 4,950,464 is respectfully traversed with respect to the amended claims.

Claim 1, which relates to a method for purifying contaminated sulfuryl fluoride, requires that sulfuryl fluoride containing water and at least one additional contaminant is contacted with an alkali metal fluoride **and** at least one sorbent selected from the group consisting of activated carbon, silica gel and zeolite. According to the method, a purified sulfuryl fluoride is produced from which water has been removed.

None of the cited references, whether considered individually or in combination, teach removing water and other impurities from sulfuryl fluoride using a sorptive purification step that comprises contacting the sulfuryl fluoride with an alkali metal fluoride and at least one of activated carbon, silica gel and zeolites.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. See MPEP §2143. The cited references fail to meet this burden.

Pez discloses that liquid sulfuryl fluoride can be stored over KF to remove HF (column 11, lines 4-6). Jones teaches passing sulfuryl fluoride over NaF to remove HF (column 4, lines 16-19). However, both Pez and Jones are silent as to activated carbon, silica gel or zeolites and do not disclose or suggest the removal of water from sulfuryl fluoride. Indeed, Jones teaches passing the sulfuryl

fluoride through a water scrubber (to purify the water content in the sulfuryl fluoride) but fails to teach or even suggest removal of the water (see, e.g., examples 2 and 3).

Fujioka teaches that water, hydrogen fluoride and hydrogen chloride can be removed from sulfuryl fluoride by treating contaminated sulfuryl fluoride with activated alumina. Fujioka also teaches that sulfur dioxide and chlorinated hydrocarbons can be removed using activated carbon (see, e.g., column 1, lines 56-64). Pointedly, Fujioka teaches removal of the claimed contaminants using only activated alumina and/or activated carbon and fails to mention contacting the contaminated sulfuryl fluoride with an alkali metal fluoride.

There is no motivation to combine the teachings of Pez or Jones with Fujioka because Fujioka teaches that the desired purification can be achieved using activated alumina in combination with activated carbon. Pointedly, Fujioka teaches that HF, HCl and water can be removed using activated alumina, while Pez and Jones respectively teach that KF or NaF can be used to remove HF only. Because Fujioka teaches that activated alumina is effective to remove HF in addition to other impurities, one having ordinary skill in the art would have had no reason to combine with the activated alumina any additional compounds known only to remove HF.

Even if Pez or Jones are combined with Fujioka, the combination fails to reasonably suggest all of the claim limitations. Claim 1 requires that the contaminated sulfuryl fluoride contains water and that the water is removed using a sorptive purification step consisting of contacting the contaminated sulfuryl fluoride with an alkali metal fluoride and at least one sorbent selected from the group consisting of activated carbon, silica gel and zeolite. Both Pez and Jones are silent as to the removal of water. While Fujioka discloses that water can be removed from contaminated sulfuryl fluoride, Fujioka teaches that activated alumina is used to remove water. Activated alumina is **not** among the adsorbents required by claim 1. Based on the teachings of Fujioka, one with skill

in the art seeking to purify contaminated sulfuranyl fluoride containing water would turn to activated alumina and not to the adsorbents required by claim 1.

Finally, as noted previously, claim 1 requires that a single sorptive purification step is used to produce purified sulfuranyl fluoride. The Office Action alleges that multiple purification steps can be carried out in any order, including simultaneously. Applicants respectfully disagree. Pez and Jones teach only the use of a single sorbent and thus cannot teach or suggest a single sorptive purification step using more than one adsorbent. Fujioka teaches that activated alumina and activated carbon can be used to remove impurities from sulfuranyl fluoride. However, Fujioka teaches only the sequential use of these adsorbents (see column 1, lines 46 and 62, and column 6, lines 3-14). Other than relying on impermissible hindsight reasoning, the Office Action has not set forth any tenable basis for the conclusion that the simultaneous contacting of contaminated sulfuranyl fluoride with an alkali metal fluoride and at least one sorbent selected from the group consisting of activated carbon, silica gel and zeolite would have been obvious.

In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.


If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned at (202) 624-2845 would be appreciated since this should expedite the prosecution of the application for all concerned.

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Reply to Office Action
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If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #102623.52697US).

Respectfully submitted,

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